

Similarly in Germany and Italy, interest is emerging, but actual work is still in the beginning stages.

Actually, outside of the United Kingdom, my journey revealed few concrete instances of viable programs for deaf-blind persons, but it did uncover positive indications of a quickening interest in the field. This interest is manifested further in correspondence conducted with residents of other countries who have taken leadership in serving blind and deaf-blind persons.

Yugoslavia is engaged in educational service for deaf-blind children and is planning, on an inter-agency level, services for deaf-blind adults.

The Soviet Union reports exciting developments in novel educational programs for deaf-blind children under the auspices of the institute of Defectology in Moscow. There is a need for a detailed study of the Russian program to ascertain its implications for American services.

Work in the Netherlands is highlighted by the accomplishments of Dr. Gerrit Van Der Mey, a distinguished deaf-blind mathematician who, in the performance of his professional duties, has developed a communication device which enables him to keep in touch with an office some sixty miles from his home.

Beyond the borders of Europe, some stirrings are

felt in Latin America and Asia. Although specific accomplishments have not yet been reported, visitors to the Industrial Home for the Blind from South and Central America indicate a mounting interest in deaf-blind persons and growing expectations of future action on their behalf. Contacts with representatives from several Asian countries, most notably the Philippines and Japan, have revealed an awareness of the problem and plans for future activity.

Closer to home, programs for the deaf-blind are developing in a most promising way in Canada under the auspices of the Canadian National Institute for the Blind.

On balance, the present status of international work for the deaf-blind may seem limited. However, this is only true if one ignores the long view. Taken in the context of the centuries of neglect and apathy which have characterized worldwide attitudes toward deaf-blind persons, current attitudes of hope and expectation are highly promising.

Concrete action tends to follow changed beliefs and attitudes. Thus, although the stage of concrete action has been reached in many areas, the prerequisite level of interest is already present. The next decade should see some marked progress as these more positive ideas become translated into specific service activities.

A Legacy In Communication

IT WOULD BE IMPOSSIBLE to say precisely when the first efforts were made to develop an organized system of communication with deaf-blind persons. It is undoubtedly true that over the centuries in any social order of literacy and articulateness within which a deaf-blind person happened to be involved, some effort must have been made to communicate intelligently to him.

It is known from history that a manual method of communication was developed very early for the deaf, adapting the alphabet and signs used in some of the silent monasteries with visual communication by hand. It was said that a son of one of the Spanish kings in the fourteenth century who lost his hearing learned this method of communication and extended its use to other deaf persons with whom he became acquainted. It is probably true, too, that

similar adaptations were made in all parts of the world for the seeing deaf.

In trying to reconstruct the early days of work with the deaf, the blind, and the deaf-blind, we have to guess at the reason for the failure to develop any organized methods prior to the eighteenth century. Literacy and education itself was limited to a very small minority of the population.

The handicapped of the world, including the blind and the deaf, were relegated to isolation in terms of communication by the very fact that there had been no program, no thinking, and no philosophy about a program possible in the European and American civilizations of the time. It was amazing, therefore, that with the development of the first schools for the blind in the United States in 1830 and 1831, almost immediately some attention was

given to the possibility of communication and education for a deaf-blind person.

Just five years after the establishment of the first classes at the Perkins School for the Blind, Laura Bridgeman was admitted as a pupil. Samuel G. Howe, a doctor of philosophy and director of the school, decided that Laura Bridgeman should have an opportunity to learn; but beyond this, he believed that despite deafness and blindness she could learn.

When we remember that there were extended philosophical discussions at the time as to whether a blind person could learn, the assumption being that blindness deprived the human being of his only learning tool—sight—we can realize that it took great courage to assume that where deafness and blindness existed together the thought processes could be developed. Experimentation with Laura Bridgeman made it possible for her to live within the institution during a very long life with limited communication with all of those about her. She did learn to do a number of things which demanded communication. She learned to sew, knit, crochet, and do other things with her hands. It is true too that there was some social life for Laura at the institute and probably some conversation of a minimal nature.

Other deaf-blind children were accepted at Perkins thereafter, but it was only fifty years later that Helen Keller went to Perkins with the fulltime companionship of Anne Sullivan. The work of Anne Sullivan with Helen Keller has been so widely documented that it is unnecessary to review it here, except to say that the basic problem of communication between these two magnificent women had already been resolved during the time that Anne Sullivan worked with Helen Keller in her home in Tuscumbia. Their going to Perkins began an era of remarkable development.

The method which Anne Sullivan had used in preparing Helen Keller for school had been the manual method of communication. It was relatively rapid, completely literate, and an excellent tool for education. It encouraged a broad experimental program at Perkins to find other approaches to communicate—approaches that might ultimately make it possible for deaf-blind persons to learn speech. The vibration method of reading the lips by touch supplanted the manual method as a teaching tool since it not only maintained literacy but developed articulate speech.

With Helen Keller's ultimate graduation from college and extensive travels throughout the world, literally thousands of intelligent human beings be-

came interested in what these two women represented. A few thoughtful men and women in several parts of the world tried to find ways and means of helping deaf-blind children and adults in their own community and nation.

We know of the discouragement of these helpers, for at both Perkins and at the Industrial Home for the Blind where deaf-blind children and adults were exposed to service, only the barest minimum of special service could be rendered. In most parts of the world there was none at all.

Conversation Machines

Most of the intensive research into devices, gadgets, and electronics began with the accelerated interest growing out of the formal program for deaf-blind persons established in 1945 at IHB. It was deeply gratifying that almost immediately the American Foundation for the Blind established a Department for the Deaf-Blind and the Foundation began research on a conversation machine.

The machine, later called the Tellatouch, has been a boon to those deaf-blind persons who have learned braille. The machine is of particular value to those deaf-blind persons who have maintained some speech or who have learned to speak, although it is useful to all deaf-blind persons who read braille. This machine is a far cry from the earlier tools that were available—the alphabetic glove, the alphabetic board, and script writing on the palm. Regardless of the usefulness of these methods, the assurance that came from the use of the Tellatouch machine has since been transferred to other devices and methods.

World interest in the problem, again in a very limited form, was shown in the early 1950's with the



American Foundation for the Blind

The Tellatouch

formation of the Committee for Service to the Deaf-Blind of the World Council for the Welfare of the Blind. It became clear that similar experiments with conversation machines were going forward in England, Holland, and the Scandinavian countries, and similar machines were built and are now in use in these countries.

A unique form of the conversation machine was developed by Dr. Gerrit Van Der Mey and his associate, a deaf-blind programmer, Dr. Ir W. L. Van Der Poel, in Holland. This conversation machine was adapted to a telephone circuit so that a typed message in one part of Holland (teletyped) could be converted into braille a letter at a time at Dr. Van Der Mey's home in another part of Holland. Long distance conversations could be carried on in this way.

The common factor in all of these machines which makes them enormously valuable is that the sender does not need to know braille but can use the standard typewriter keyboard to send his message and communicate. It is apparent, of course, that machines of this kind cannot replace the manual alphabet or the oral or vibration method for the intimacy of conversation.

We have tried to indicate the impact of the Anne Sullivan work with Helen Keller in communication. By the time these devices were being developed, Anne Sullivan was dead, but there is hardly a movement forward that does not in some way call upon the skill which Anne Sullivan developed for its implementation. It is apparent that no device could be of benefit to a deaf-blind child or adult whose sensitivity and comprehension has not been awakened and developed. It is this awareness of the value of instruments on the part of the deaf-blind child and adult that continues to excite experimentation among the engineers and scientists who concern themselves with education.

Telephone Devices

Two steps followed the conversation machine, each equally involved in communication but on a different level. Because the Van Der Mey telephone conversation machine was elaborate and extremely costly, a different approach was sought to the use of the telephone. Two models have been created and a third is in process. All depend on vibration for use and all depend part on Morse code for communication.

The first, the Tactaphone, was created in 1957 through the cooperation of Richard Kinney and the Illinois Bell Telephone Company. It was the only one in use for several years.

The second, the Sensicall, was developed through the cooperation of the IHB and the New York Telephone Company. The Sensicall differs from the Tactaphone in several ways, but the primary difference is the method of sending the code. Where the Tactaphone uses the dial, the Sensicall uses a separate button or the voice for sending the code. The vibrating disk is also more powerful so that the impression received is stronger and can be used on long distance as well as local calls.

The third device, the Tactile Speech Indicator, now under development is just beginning to be tested. Whereas the Sensicall can be used only on one telephone instrument with which it is installed, the new device is portable. A person can carry it with him and use it anywhere.

This instrument was developed under a Vocational Rehabilitation Administration grant to the Leadership Training Program in the Area of the Deaf at San Fernando Valley State College in California. It was originally designed for visual impulse so that deaf persons could communicate by telephone. The adaptation to vibration for blind deaf people is a remarkable adjustment.

Another area of interest and experimentation is making the home a place where a deaf-blind person could be independent and aware. Rehabilitation programs make every effort to assist deaf-blind boys, girls, men, and women to do those things about the house which are necessary to decent living without hazard. Many ordinary objects—pots, pans, stoves, and machines—used in the average household have been adapted with braille markings or with other safety devices so that blind and deaf-blind persons may use them.

A major problem has always been the isolation of the deaf-blind individual within his home. Once he is there with his house properly secured, there is no way for his friends or neighbors to communicate with him or let him know that they are at the door or telephone. There is just no bell for the deaf-blind person. Some deaf-blind persons have attached electric fans to door bells and telephones, so that when they ring, the fan is turned on, but this method requires the person to be within range of the fan.

Further experiments are being carried forward in England and the United States, where electronic doorbells have been designed. One, in the United Kingdom, is now in production. The second, in the United States, is only available in experimental models.

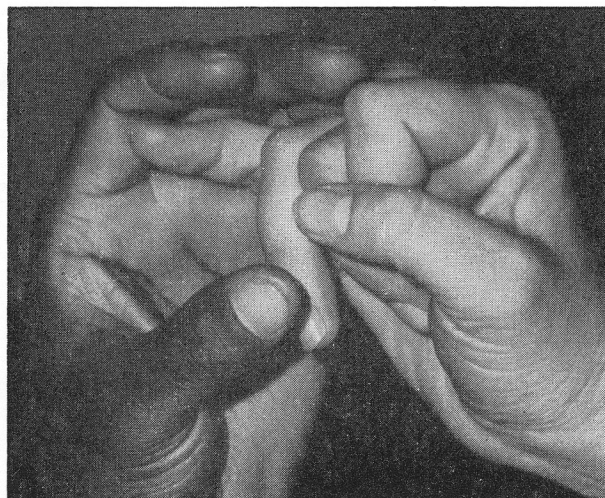
Both work on the same principle. A radio transmitter is activated by pressing the doorbell button. The deaf-blind person in Britain wears a model with

a vibrating ring on his finger. This is in effect a receiver activated by the radio transmitter. The American model has a receiver worn in the shirt pocket so that when it is activated by the doorbell transmitter, it vibrates against the body. It is hoped that in a very short time either or both of these models will be perfected and produced so that any deaf-blind person who needs and wants one can secure it without difficulty. It has been suggested that this same instrument may also be used to let a deaf-blind person know that the telephone is ringing.

Up to this time we have talked only of one-to-one communication. One of the first steps toward broader group communication, was taken by a Norwegian engineer, Einar Bull Johannessen. Using the Tellatouch as a model, he has developed a method of communication relays so that a group of eight, sixteen, twenty-four, or thirty-two deaf-blind persons meeting together can communicate in much the same way as an intercommunicating system works between conferees talking on the phone. Again, this machine demands a knowledge of braille.

The problem of vocabulary is one which constantly affects the usefulness of all communication devices. Those closest to the problem have not yet arrived at a solution to this baffling situation.

The combination of the two impairments, however, slows down communication to such a degree that gradually, over the years, all superfluous words are omitted from communication and only gross language remains. This, of course, is not true of all deaf-blind persons, many of whom have a high level of intellectual competence and maintain language and improve it. Whether or not it is the function of an agency serving the adult deaf-blind population to continue the educational process in such basic



Alabama Institute for the Deaf and Blind

skills as language and vocabulary when there are so many other needed areas of rehabilitation becomes a pressing question.

The manual alphabet is the most easily used. As a part of its experimental work, the IHB's Anne Sullivan Macy Service has perfected a method of teaching the manual alphabet to all who will learn and is conducting seminars and courses in the teaching of the manual alphabet.

No attempt is made here to identify the many adaptations that have been made for recreational and social activities so that deaf-blind persons may participate fully and enjoyably, nor have mobility training or industrial training been mentioned; not because any of these areas of service are less important than the teaching of communication, but because recreation or any other social intercourse can occur only when communication is established.

Addendum to Directory of Summer Courses in Education of Visually Handicapped Children—1966

| <i>University</i> | <i>Catalogue Number</i> | <i>Title of Course</i> | <i>Dates</i> | <i>Level</i> | <i>No. Credit Hrs.</i> | <i>Tuition per Hr.</i> | <i>Scholar- ships</i> |
|-----------------------------|-----------------------------|------------------------|--------------|--------------|--------------------------------|----------------------------|---------------------------|
| <i>University of Hawaii</i> | | | | | | | |
| Dr. George Fargo | EP S 411 | Education of Visually | 6/20-7/29 | U & G | 3 | \$15.00 | nr |
| Assistant Professor | | Handicapped Children | | | | | |
| Department of Educational | EP S 515 | Field Problems in | | | | | |
| Psychology | | Teaching Exceptional | | | | | |
| University of Hawaii | | Children: Visually | 6/20-7/29 | G | 3 | 15.00 | nr |
| 1776 University Avenue | | Handicapped | | | | | |
| Honolulu, Hawaii 96822 | | | | | | | |

For further information, see the February 1966 issue, pp. 61-68.